

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) Nanometric-A nanometric positioning device containing a foundation element ~~with attached~~ to a crude positioning stage capable of backward and forward travel with regard to ~~it~~the foundation element, wherein:

on top of the crude positioning stage is attached a fine positioning stage with an executing element and capable of backward and forward travel with regard to the crude positioning stage;

the crude positioning stage is kinematically coupled to the foundation element as well as coupled to the fine positioning stage, allowing both the crude positioning stage and the fine positioning stages to move independently with respect to the foundation element;

the kinematic coupling of the crude and fine positioning stages allows for autonomous movement of the executing element with regard to both crude positioning stage and, correspondingly, to the foundation element;

the mounting of the crude positioning stage and fine positioning stages is such that it allows ~~their~~for the respective movement of the crude positioning stage and the fine positioning stagerespective movement along both coordinate axes of the-a plane of the foundation element;

the crude positioning stage is executed in the form of a rigid bearing plate carrying a rigidly fixed rectangular frame inside which the fine positioning stage's executing element is situated;

the latter can move and be fixed in a given position by ~~mean~~means of pairs of nanometer range positioning elements, one pair of the nanometer range positioning elements on each one of the four sides of the rigidly fixed rectangular frame;

the pairs of the nanometer range positioning elements comprising either i) four pairs of magnetostrictive transducers or ii) two pairs of magnetostrictive transducers and two pairs of springs; and

~~the margin of error in the positioning of the crude positioning stage~~ margin of error is smaller than the range of fine stage positioning along either of the two coordinate axes.

2. (Cancelled)
3. (Currently Amended) The nanometric Nanometric-positioning device according to claim 1, wherein kinematic coupling of the crude positioning stage with the foundation element comprises is realized in the form of at least two precision linear motors, providing adapted for displacing the rigid bearing plate of the crude positioning stage along both corresponding coordinate axes.
4. (Currently Amended) The nanometric Nanometric-positioning device according to claim 3, wherein the device is equipped with the means of moving the rigid plate of the crude positioning stage along both corresponding coordinate axes on an air cushion.
5. (Currently Amended) The nanometric Nanometric-positioning device according to claim 1 wherein the foundation element comprises is equipped with means of fixating the crude positioning stage using the principle of vacuum suction.
6. (Currently Amended) The nanometric Nanometric-positioning device according to claim 1, wherein the device comprises is equipped with a system of measurement and control of the positioned object, which includes at least three measurement and control devices with an accuracy no worse not less than the accuracy of positioning assured-provided by the positioning elements; one of the said measuring and control devices is situated so it allows as to allow for linear control and measurement of the object's position along one of the coordinate axes, while the others in a way that allows for linear-polar control and measurement of the object's position with regard to the other one of the orthogonal coordinate axes in the foundation element's plane.
7. (Currently Amended) The nanometric Nanometric-positioning device according to claim 6, wherein the device comprises is equipped with a system of controlling positioning elements, which allow allows for the displacement of the positioned object over a specified distance by the executing element of the fine positioning stage, which is coupled to the system of measurement and control of the positioned object location.
8. (Currently Amended) The nanometric Nanometric-positioning device according to claim 6, wherein the means of measurement and control of the measurement and control

system for the location of positioned object ~~comprises are realized in the form of~~ laser heterodyne interferometers and/or capacitance sensors of the deviation of the crude and fine positioning stages' position relative to the foundation element plane.

9. (Currently Amended) The nanometric Nanometric positioning device according to ~~claim 2~~claim 1, wherein kinematic coupling of the crude positioning stage with the foundation element ~~comprises is realized in the form of~~ at least two precision linear motors, ~~providing adapted for displacing the rigid~~ bearing plate of the crude positioning stage along both ~~corresponding~~ coordinate axes.

10. (Currently Amended) The nanometric Nanometric positioning device according to claim 9, wherein the device ~~comprises is equipped with the means of moving the rigid~~ bearing plate of the crude positioning stage along both corresponding coordinate axes on an air cushion.

11. (Currently Amended) The nanometric Nanometric positioning device according to claim 10 wherein the foundation element ~~comprises is equipped with~~ means of fixating the crude positioning stage using the principle of vacuum suction.

12. (Currently Amended) The nanometric Nanometric positioning device according to claim 11, wherein the device ~~comprises is equipped with~~ a system of measurement and control of the positioned object, which includes at least three measurement and control devices with ~~an accuracy no worse not less than~~ the accuracy of positioning ~~assured provided~~ by the positioning elements; one of the said measuring and control devices is situated so it ~~allows as to allow~~ for linear control and measurement of the object's position along one of the coordinate axes, while the others in a way that allows for linear-polar control and measurement of the object's position with regard to the other one of the orthogonal coordinate axes in the foundation element's plane.

13. (Currently Amended) The nanometric Nanometric positioning device according to claim 12, wherein the device ~~comprises is equipped with~~ a system of controlling positioning elements, which ~~allow~~ allows for the displacement of the positioned object over a specified distance by executing element of the fine positioning stage, which is coupled to the system of measurement and control of the positioned object location.

14. (Currently Amended) The nanometric Nanometric positioning device according to claim 13, wherein the means of measurement and control of the measurement and control

system for the location of positioned object comprises ~~are realized in the form of~~ laser heterodyne interferometers and/or capacitance sensors of the deviation of the crude and fine positioning stages' position relative to the foundation element plane.

15. (New) A nanometric positioning device comprising:

a foundation element including a rigid bearing plate on which is disposed a rigidly fixed frame having four interior walls contiguous with one another;

a crude positioning stage kinematically coupled to the foundation element and capable of travel along both coordinate axes of a plane with respect to the foundation element;

a fine positioning stage kinematically coupled to the crude positioning stage, the fine positioning stage including an executing element disposed within the rigidly fixed frame, the fine positioning stage adapted for independent travel along said both coordinate axes of the plane respect to the crude positioning stage; and

a plurality of pairs of nanometer range positioning elements coupled to respective ones of the four contiguous walls of the frame such that the fine positioning stage can move and be fixed in a given position by said plurality of pairs of nanometer range positioning elements,

wherein both the crude positioning stage and the fine positioning stage are adapted to move independently with respect to a plane of the foundation element,

the kinematic coupling of the crude and fine positioning stages allows for autonomous movement of the executing element with respect to both crude positioning stage and the foundation element, and

a margin of error for positioning the crude positioning stage is smaller than the range of fine positioning stage along either of the two coordinate axes.

16. (New) The nanometric positioning device according to claim 15, wherein the plurality of pairs of nanometer range positioning elements comprise either i) four pairs of magnetostrictive transducers or ii) or two pairs of magnetostrictive transducers and two pairs of springs.